Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.(currently amended)A multiple simultaneous access system comprising:

~~A~~a resource held in computer memory, said resource being a multi-threshold dither matrix used for digitally halftoning a contone color image, in the form of an array of contone color pixel values, to bi-level dots;

~~multiple~~ two or more parallel processors which require simultaneous access to the resource;, and

a resource address generator to generate coordinates within the resource;,

-wherein the resource is divided into different parts with each part being stored in different memory banks, ~~and~~ the resource address generator able to generates coordinates which are used to select the parts of the resource that are used by each processor, the selection being arranged to ensure that each part is only used by one processor at a time.

2.(currently amended) A ~~resource~~ multiple simultaneous access system according to claim 1, wherein the selection ~~also~~ ensures that each processor uses the parts in the order in which they appear in the resource.

3. (currently amended) A ~~resource~~ multiple simultaneous access system according to claim 1, wherein the ~~resource is a multi-threshold dither matrix used for digitally halftoning a contone color image, in the form of an array of contone color pixel values, to bi-level dots; said~~ multi-threshold dither matrix ~~comprising~~has, for each dither cell location, a fixed set of n thresholds defining n+1 intensity intervals within which said dither cell location is defined to be alternately not set and set.

4. (currently amended) A ~~resource~~ multiple simultaneous access system according to claim 3, wherein the multiple parallel processors which require simultaneous access to the resource are multi-threshold units provided for each color component of ~~the~~ an image, ~~all of~~each said multi-threshold units being operatively coupled to the multi-threshold dither matrix, and each said multi-threshold unit determining the value of an output dot corresponding to a contone color pixel component value by determining whether the dither

cell location corresponding to the location of said output dot is defined to be set within ~~the~~ an intensity interval which said contone value uniquely selects.

5. (currently amended) A ~~resource~~ multiple simultaneous access system according to claim 4, wherein the dither cell is split into subcells and stored in separately addressable memories from which different multi-threshold values are retrieved in parallel.

6. (currently amended) A ~~resource~~ multiple simultaneous access system according to claim 5, wherein a four color component contone image is to be halftoned, four separate triple-threshold units ~~may~~ each receive a series of contone color pixel values for respective color components, and a dither cell address generator operates in conjunction with four four-way multiplexors, for respective threshold units, to control the retrieval of four different triple-threshold values from four different subcells of the dither matrix.

7. (currently amended) A method of simultaneously accessing a resources held in computer memory, the resource being a multi-threshold dither matrix for digital halftoning a contone color image, in the form of an array of contone color pixel values, to bi-level dots ~~where multiple parallel processors require simultaneous access to the resource and there is a resource address generator to generate coordinates within the resource~~, the method including ~~comprising~~ the steps of:

dividing the resource into different parts;

storing each part in a different memory bank; and

operating ~~the~~ a resource address generator to generates coordinates which are used to select the parts of the resource that are used by ~~each~~ two or more parallel processors requiring simultaneous access to the resource, the selection being arranged to ensure that each part is only used by one processor at a time.

8. (currently amended) The method of claim 7, ~~comprising~~ including the further step of:

the selection also ensuring that each processor uses the parts in the order in which they appear in the resource.

9. (currently amended) The method of claim 8, wherein ~~the resource is a multi-threshold dither matrix for digital halftoning a contone color image, in the form of an array of contone color pixel values, to bi-level dots,~~ said dither matrix comprises~~ing~~, for each dither cell

location, a fixed set of n thresholds defining n+1 intensity intervals within which said dither cell location is defined to be alternately not set and set;

the ~~multiple~~ two or more parallel processors which require simultaneous access to the resource are multi-threshold units provided for each color component of the image;

~~all the~~ each multi-threshold units ~~are~~ being operatively coupled to the dither matrix; ~~and~~ the method includes the further step of:

determining, for each multi-threshold unit, the value of an output dot corresponding to a contone color pixel component value by determining whether the dither cell location corresponding to the location of said output dot is defined to be set within the intensity interval which said contone value uniquely selects.

10. (currently amended) The method of claim 9, ~~comprising~~ further including the step of:

splitting the dither cell into subcells and storing each subcell in a separately addressable memory from which different multi-threshold values are retrieved in parallel.

11. (currently amended) The method of claim 9, wherein a four color component contone layer is to be halftoned, four separate triple threshold units each receive a series of contone color pixel values for respective color components~~, and~~; the method ~~comprises~~ further including the step of:

operating the dither cell address generator in conjunction with four four-way multiplexors, for respective threshold units, to control the retrieval of four different triple threshold values from four different subcells of the dither matrix.